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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,290	01/05/2001	Jongmin Lee	89190.090700/DP-301278	4652

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EXAMINER

CORRIGAN, JAIME W

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 06/23/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/755,290

Applicant(s)

LEE ET AL.

Examiner

Jaime W Corrigan

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-9, 13-16, 18, 24 and 25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 4-9, 13-16, 18, 24 and 25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

In view of the Information Disclosure Statement filed on 06 May 2003 the indication of allowability of claims 4-9, 13-16, 18, 24-25 is hereby withdrawn. A new Non-final rejection is set forth below.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 4-5, 13-16, 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Elendt et al. (PN 5,992,360).

Regarding claims 4, 13 Elendt discloses a deactivation rocker arm assembly (See Figure 1) including an elongate rocker arm (See Figure 1 (1)) having an end (See Figure 1 (5)), an aperture (See Figure 1 (9)) defined by said end, a center post (See Figure 1 (6), (8)) slidingly (See Column 3 Lines 38-53) disposed within said aperture, said center post configured for engaging (See Column 3 Lines 24-37) a valve stem of a valve of an internal combustion engine, said end of said rocker arm defining a first pin bore (See Figures 2- 3 holding (13)) and a second pin bore (See Figures 2- 3 holding (13)), said first pin bore and said second pin bore being substantially concentric (See

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Figures 2-3, (13)) relative to each other, said center post defining a middle pin bore (See Figure 3 (Between (13))); a locking pin assembly (See Figure 1 (16), Figure 3 (13)) selectively coupling (See Column 3 Lines 12-53, Column 4 Lines 1-3) together and decoupling said center post and said rocker arm, said locking pin assembly including an actuating pin (See Figure 3 (13)), a second pin member (See Figure 3 (13)) and a middle pin member (See Figure 3 (Not numbered but clearly visible between (13))), said actuating pin member slidably disposed at least partially within said first pin bore (See Figure 3 (13)), said second pin member slidably disposed at least partially within said second pin bore (See Figure 3 (13)), and said middle pin member slidably disposed at least partially within said middle pin bore (See Figure 3 (Not numbered but clearly visible between (13))); and a free motion spring assembly (See Figure 3 (22)).

Regarding claim 5 Elendt discloses a deactivation rocker arm assembly further comprises a pin spring (See Figures 1, 3 (15)) disposed within said second pin bore, said pin spring normally biasing said locking pin (See Figure 1 (16), Figure 3 (13)) assembly toward a default (See Column 3 Lines 12-53, Column 4 Lines 1-3) position wherein said actuator pin member extends a predetermined distance (See Figure 1 (16), Figure 3 (13)) from disposition within said first pin bore in a direction away (See Figure 1 (16), Figure 3 (13)) from said center post, said middle pin member (See Figure 3 (Not numbered but clearly visible between (13))) extends from disposition within said middle pin bore into (See Figure 3 (Not numbered but clearly visible between (13))) said first pin bore, and said second pin member (See Figure 3 (13)) extends from disposition

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within said second pin bore (See Figure 3 (13)) into said middle pin bore (See Figure 3 (13)) to thereby couple said center post to said rocker arm (See Column 3 Lines 24-53, Column 4 Lines 1-3).

Regarding claim 14 Elendt discloses a pin spring (See Figures 1, 3 (15)) disposed within said second pin bore (See Figures 2- 3 holding (13)), said pin spring normally biasing said locking pin assembly toward a default position (See Figure 3 (13), Column 3 Lines 24-53, Column 4 Lines 1-3) wherein said actuator pin member extends a predetermined distance (See Figure 3 (13), Column 3 Lines 24-53, Column 4 Lines 1-3) from disposition within said first pin bore in a direction away from said center post, said middle pin member (See Figure 3 (Not numbered but clearly visible between (13))) extends from disposition within said middle pin bore into (See Figure 3 (Not numbered but clearly visible between (13))) said first pin bore, and said second pin (See Figure 3 (13)) member extends from disposition within said second pin bore (See Figures 2- 3 holding (13)) into said middle pin bore (See Figure 3 (Between (13)) to thereby couple said center post (See Figure 1 (6), (8)) to said rocker arm (See Figure 1 (1)).

Regarding claim 15 Elendt discloses said rocker arm (See Figure 1 (1)) includes elongate arms (See Figure 1 (1), (5)), said arms being one of attached to and integral with said body of said rocker arm and extending-therefrom (See Figure 1 (1), (5)).

Regarding claim 16 Elendt discloses said arms (See Figure 1 (1), (5)) extend from said end of said rocker arm in a manner that is generally parallel (See Figure 1 (1), (5)) with said rocker arm (See Figure 1 (1)).

Regarding claim 18 Elendt discloses said rocker arm (See Figure 1 (1)) defines a roller orifice (See Figure 3 (Not numbered but clearly visible)), a roller (See Figure 2 (4)) being disposed within said roller orifice and being coupled to said rocker arm, said roller configured for engaging a cam (See Column 2 Lines 1-2, Column 3 Line 1) of the internal combustion engine.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-9, 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elendt et al. (PN 5,992,360) in view of Kreuter (PN 5,908,015).

Elendt discloses a deactivation rocker arm assembly (See Figure 1) including an elongate rocker arm (See Figure 1 (1)), an aperture (See Figure 1 (9)) defined by said

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rocker arm, a center post (See Figure 1 (6), (8)) slidably disposed within said aperture, said center post configured for engaging (See Column 3 Lines 24-37) a valve stem (See Abstract) of a valve of an internal combustion engine, a locking pin (See Figure 1 (16), Figure 3 (13)) assembly selectively coupling together and decoupling said center post (See Figure 1 (6), (8)) and said rocker arm (See Figure 1 (1)); and a free motion spring (See Figure 3 (21)) assembly.

Elendt fails to disclose spring retainers surrounding the valve stem, the inner spring between a disk cap and inner spring retainer, an outer spring between outer spring retainer and the disk cap; rocker arms engaging inner and outer spring retainers; outer spring biasing rim into engagement with inner spring retainer and one of the retainers is coupled to the valve stem.

Kreuter teaches that it is conventional in the art to utilize an inner spring retainer (See Figure 4 (Not numbered but clearly visible and touching (2)) surrounding a portion of the valve stem (See Figure 4 (4)); an outer spring retainer (See Figure 4 (Not numbered but clearly visible and touching (17)) surrounding a portion of the valve stem (See Figure 4 (4)); an inner spring (See Figure 4 (2)) surrounding a portion of the valve stem, said inner spring being disposed between a disk cap (See Figure 4 (Not numbered but clearly visible and touching (2), (4), (17)) associated with the valve stem (See Figure 4 (4)) and said inner spring retainer (See Figure 4 (Not numbered but clearly visible and touching (17)); and an outer spring (See Figure 4 (17)) surrounding said inner spring, said outer spring (See Figure 4 (17)) being disposed between said outer spring retainer (See Figure 4 (Not numbered but clearly visible and touching (17))

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and the disk cap (See Figure 4 (Not numbered but clearly visible and touching (2), (4), (17))); said rocker arm includes elongate arms (See Figure 4 (12)), said arms being one of (See Figure 4 (12)) attached to and integral (See Figure 4 (12)) with said body of said rocker arm and extending (See Figure 4 (12)) therefrom, said arms (See Figure 4 (12)) engaging one of said inner spring retainer (See Figure 4 (Not numbered but clearly visible and touching (17))) and said outer spring retainer (See Figure 4 (Not numbered but clearly visible and touching (17))); said arms extend in a direction that is generally parallel (See Figure 4 (12)) with said body of said rocker arm (See Figure 4 (12)), said outer spring (See Figure 4 (17)) biasing said outer spring retainer (See Figure 4 (Not numbered but clearly visible and touching (17))) into engagement with said arms (See Figure 4 (12)), said inner spring retainer (See Figure 4 (Not numbered but clearly visible and touching (2))) configured for being coupled to the valve stem (See Figure 4 (4)); said outer spring retainer includes a rim (See Figure 4 (Not numbered but clearly visible)), said outer spring (See Figure 4 (17)) normally biasing said rim into (See Figure 4 (2), (4), (17)) engagement with a periphery of said inner spring retainer (See Figure 4 (Not numbered but clearly visible and touching (17))); one of said inner spring retainer (See Figure 4 (Not numbered but clearly visible and touching (17))) and said outer spring retainer is coupled to said valve stem (See Figure 4 (4)).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the spring retainer taught by Kreuter in the Elendt device since it would improve valve control.

Conclusion

Any inquiry concerning this communication from the examiner should be directed to Examiner Jaime Corrigan whose telephone number is (703) 308-2639. The examiner can normally be reached on Monday - Friday from 8:30 a.m. – 6:00 p.m. 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (703) 308-2623. The fax number for this group is (703) 872-9302. After Final (703) 872-9303.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

JC

Jaime Corrigan



Patent Examiner

June 20, 2003

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